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SYRACUSE UNIVERSITY.

College of Liberal Arts.

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POST-GRADUATE

COURSES OF STUDY.

1891.



SYRACUSE UNIVERSITY.

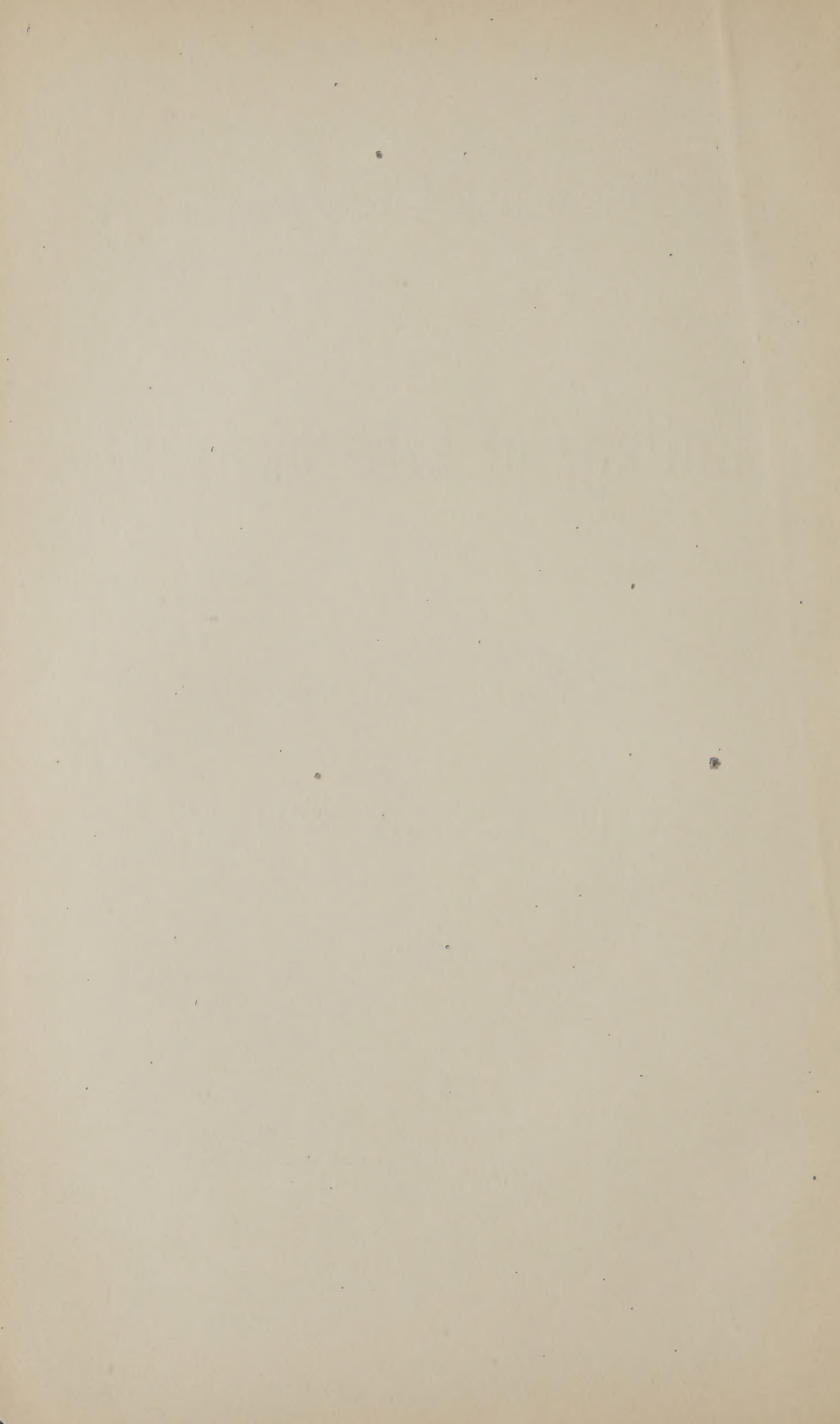
College of Liberal Arts.

POST-GRADUATE

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1891.

SYRACUSE, N. Y.:
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EXAMINERS.

REV. CHAS. N. SIMS, D. D., LL. D., CHANCELLOR,

English Literature.

JOHN R. FRENCH, LL. D., DEAN, - - *Mathematics.*

REV. W. P. CODDINGTON, D. D.,

Greek, Philosophy, Evidences of Christianity.

GEORGE F. COMFORT, L. H. D.,

French, German, Esthetics, and History of the Fine Arts.

FRANK SMALLEY, A. M., - - - - - *Latin.*

EUGENE HAANEL, PH. D. (BRESL.), F. R. S. C.,

Physics, Chemistry.

WILLIAM H. MACE, A. M., - - - - - *History.*

CHARLES W. HARGITT, PH. D., - *Botany, Geology, Zoology.*

SYRACUSE UNIVERSITY.

COLLEGE OF LIBERAL ARTS.

COURSES OF POST-GRADUATE STUDY.

To promote systematic and thorough culture the Master's degree and the degree of Doctor of Philosophy will be conferred upon any Bachelor of Arts, of Science, or of Philosophy of any reputable college, who shall comply with the following requirements.

The following courses of study may be pursued by non-resident graduates. Any three of the groups designated by the Roman numerals, I., II., III., etc., selected from the same department, will, unless otherwise indicated, be regarded as a complete course. On passing a satisfactory examination upon one of such groups the candidate will be entitled to the second degree, *i. e.*, a Bachelor of Science, of Philosophy, or of Arts will be entitled to the corresponding Master's degree. After satisfactory examination upon the other two groups so selected the degree of Ph. D. will be conferred.

These degrees are offered to none but regular graduates of colleges, and the Master's degree conferred *in cursu* or *causa honoris*, or conferred by another college *upon examination*, will not be accepted as a substitute for any part of the above described course.

Candidates for these degrees will furnish documentary evidence, by diploma or otherwise, that the required Bachelor's degree has been received, and before entering upon their studies will matriculate by payment of the matriculation fee, and by furnishing to the Dean of the Faculty, Prof. John R. French, the following items: (1) Name in full, (2) residence, (3) age, (4) present occupation, (5) date of graduation, (6) from what college graduated, (7) degree received, (8) other degrees received, if any, with date and name of institution conferring

them, (9) under-graduate course pursued (classical or otherwise), (10) post-graduate course proposed. Blanks for this purpose will be furnished on application.

The candidate will appear at the University for examination, which may be upon one, two, or three entire groups at one time, as may be desired. These examinations will be held on such of the following dates as may be mutually convenient, viz : July 1-15, September 5-15, or December 20-January 5, and at no other times except by order of the Faculty for sufficient reasons stated. Four weeks prior to the final examination the candidate will, unless otherwise noted in his course, forward for deposit in the library a thesis in plain script, of not less than four thousand words, on some subject previously approved by the examiner, and connected with the course of study pursued. This must be accompanied by six copies in print, by typewriter or otherwise, except symbols and diagrams, which may be inserted with a pen. This thesis the candidate will be expected to maintain at his final examination.

For obvious reasons the Faculty have deemed it wise that all candidates on the continent of North America be required to take these examinations in Syracuse. All requests for question papers to be sent elsewhere will be declined. The examinations are somewhat rigorous, occupying from four to six days upon each group.

Candidates are requested to give to the Dean of the Faculty three weeks' notice of the subjects upon which examination may be desired. The following fees are required to be prepaid :

Marticulation, - - - - -	\$ 5.00
Examination for each group, - - - - -	20.00
Diplomas, each, - - - - -	5.00

Candidates not reporting for three years after matriculation will be deemed to have abandoned the course, and will be dropped from the the list.

Information as to matters of detail relating to any particular course may be obtained by addressing the examiner in the department involved.

NOTE.—Candidates who matriculated prior to July 15, 1891, may finish their course under the scheme as published in 1889, provided such course is completed before July 15, 1893. This limitation may be extended by the Faculty for special reasons in particular cases.

In order that candidates may be communicated with they are requested to notify the Dean of any change of address.

ENGLISH LITERATURE.

I.

1. History of English Literature.³⁵ (Books I. and II.) *Taine*.
2. Early English Literature.⁵³ *Washburn*.
3. Chaucer's Canterbury Tales.
4. Morley's Chaucer.³²
5. Best Elizabethan Plays.²⁹ *Thayer*.
6. Lectures on the English Language.⁵⁵ *Marsh*.
7. Spenser's Faërie Queene.⁴⁴ *Kitchin*.
8. Morley's Spenser.³²
9. An essay of 2,000 to 4,000 words on English Literature to the close of the Elizabethan period, followed by an oral examination on the general subject.

II.

1. History of English Literature.³⁵ (Book III.) *Taine*.
2. English of Shakespeare.²⁹ *Craik*.
3. Critical Study of any twelve plays of Shakespeare, including Hamlet, King Lear, Macbeth, and Mid-Summer Night's Dream.
4. Reliques of Ancient Poetry.⁵² *Percy*.
5. Milton's Paradise Lost.
6. Six Chief Lives from Johnson's Lives of the Poets.⁴⁴
7. Dramatic Literature.⁷⁹ *Schlegel*.
8. An essay of 2,000 to 4,000 words on English and American Novelists and their works, followed by an oral examination on the subject.

III.

1. History of English Literature.³⁵ (Book IV.) *Taine*.
2. Pope's Essays, On Criticism and On Man.
3. Carlyle's Essays on Burns and Voltaire.
4. Tennyson's Idyls of the King and In Memoriam.
5. Poetry of Tennyson.⁵⁵ *Van Dyke*.
6. Seven Lamps of Architecture.⁷⁰ *Ruskin*.
7. English Prose.²⁹ *Garnett*.
8. Landmarks of English Literature. ² *Nicholl*.
9. Essay of 3,000 to 5,000 words on American Literature, embracing history, poetry, essays, novels, and magazine literature, preparatory to an oral examination on the whole subject.

NOTE.—The reference numerals indicate the publishers of the books named. See list at the end

MATHEMATICS.

The entire work named are included.]

I.

1. Plane and Spherical Trigonometry.⁴¹ *Chauvenet.*
2. Analytical Geometry of two and three dimensions.⁴¹ *Johnson or Bowser.*
3. Analytical Geometry.⁷¹ *Ray's Howison, unabridged.*
4. Differential Calculus.⁴⁴ *Todhunter.*

II.

1. Integral Calculus.⁴⁴ *Todhunter.*
2. Analytical Mechanics.⁴ *Bartlett.*
3. Spherical and Practical Astronomy.⁴¹ *Chauvenet.* Vol. I.

III.

1. Acoustics and Optics. ⁴ *Bartlett.*
2. Elements of Quaternions.²⁹ *Hardy.*
3. Theory of Determinants.⁶⁴ *Scott.*
4. Directional Calculus.²⁹ *Hyde.*

GREEK LANGUAGE AND LITERATURE.

I.

1. History of Classical Greek Literature.³² (2 Vols.) *Mahaffey*.
2. The Life of the Greeks and Romans. ² *Guhl & Koner*.
3. Troja.³² *Schliemann*.
4. Manual of Mythology.⁵⁷ *A. S. Murray*.
5. Homer's Iliad.⁴⁴ (I. IX. XI. XVI. XXIV.) *Pratt & Leaf*.
6. Homer's Odyssey.⁴⁴ (XXI. XXIV.) *Hamilton*.

II.

1. Studies of the Greek Poets.³² *Symonds*.
2. Theology of the Greek Poets.²⁰ *Tyler*.
3. Selected Odes of Pindar.²⁹ *Seymour*.
4. Æschylus, { Prometheus Bound. ¹ *Mather*.
 { Seven against Thebes.²⁹ *Flagg*.
5. Sophocles, { Ajax. ¹ *Febb*.
 { Antigone.²⁹ *D'Ooge*.
6. Euripides, { Medea.²⁹ *Allen*.
 { Bacchantes.²⁹ *Beckwith*.

III.

1. Aristophanes, { Clouds. ⁵ *Felton*.
 { Knights.⁴⁴ *Merry*.
2. Plato, { Gorgias.¹⁰ *Woolsey*.
 { Republic.⁴⁴ (Books I. IV.) *Warren*.
3. A comparative study of the Electra of Sophocles with Electra of Euripides.
4. Thucydides.²⁹ Book I. *Morris*.
5. Æschines against Ctesiphon.⁴⁴ *Gwatkin*.
6. Select Orations of Lysias.³⁰ *Stevens*.

THESIS : Compare the Ancient and the Modern Drama.

PHILOSOPHY.

METAPHYSICS.

I.

1. History of Philosophy. (Translated by Hough.)⁴⁴ *Erdmann.*
2. The Stoics, Epicureans, and Sceptics. (Translated by Reichel.)⁴³ *Zeller.*
3. Geschichte der Deutschen Philosophie.⁴³ *Zeller.*
4. Critique of the Pure Reason.³⁰ (Translated by Morris.) *Kant.*
5. Metaphysic. (Translated by Bosanquet.)⁴⁴ *Lotze.*
6. A System of Logic and History of Logical Doctrines ⁴³ (Translated by Lindsay.) *Ueberweg.*

II.

1. German Psychology of To-day.⁵⁷ (Translated by Baldwin.) *Ribot.*
2. Science of Knowledge.³⁰ (Translated by Everett.) *Fichte.*
3. The Principles of Science.⁴⁴ *Jevons.*
4. British Thought and Thinkers. *Morris.*
5. The Scottish Philosophy.¹¹ *McCosh.*
6. Examination of J. S. Mills's Philosophy.¹¹ *McCosh.*

III.

1. Psychological Theory.³² *Bowne.*
2. The Relations of Mind and Brain.⁴⁴ *Calderwood.*
3. Protoplasm, or Matter and Life. *Beale.*
4. Mikrokosmos. *Lotze.*
5. Elements of Physiological Psychology.⁵⁵ *Ladd.*
6. Final Causes.⁵⁷ *Janet.*

THESIS: (1) Influence of Cartesianism on Modern Thought.
(2) Pessimism in Modern Philosophy.
(3) The Philosophical Increment of the 19th Century.

PHILOSOPHY.

ETHICS.

I.

1. History of Ancient Philosophy. *Butler*.
2. History of Modern Philosophy.⁵⁷ (Translated by Gordy.) *Kuno Fischer*.
3. Socrates and the Socratic Schools.⁴³ (Translated by Reichel.) *Zeller*.
4. The Nichomachean Ethics.⁴³ (Translated by Williams) *Aristotle*.
5. Outlines of the History of Ethics.⁴⁴ *Sidgwick*.
6. The Methods of Ethics.⁴⁴ *Sidgwick*.

II.

1. Christianity and the Greek Philosophy.³² *Cocker*.
2. Prolegomena to Ethics.⁴⁴ *Green*.
3. Critique of the Practical Reason.⁴³ (Translated by Abbott.) *Kant*.
4. Kant's Ethics.³⁰ (Translated by Porter.)
5. Types of Ethical Theory.⁴⁴ *Martineau*.
6. Theory of Morals.⁵⁷ *Janet*.

III.

1. Institutes of Law. *Lorimer*.
 2. Modern Utilitarianism.⁴⁴ *Birks*.
 3. Modern Physical Fatalism.⁴⁴ *Birks*.
 4. Ethics of Theism.⁷⁷ *Leitch*.
 5. Social Morality.⁴⁴ *Maurice*.
 6. Christianity and Positivism.¹¹ *McCosh*.
 7. Conscience.³⁷ *Cook*.
- THESIS: (1) Ethical Bearings of Modern Socialism.
(2) Pessimism in Modern Philosophy.

EVIDENCES OF CHRISTIANITY.

I.

1. Supernatural Origin of Christianity.⁵⁷ *Fisher.*
2. Divine Origin of Christianity as Indicated by its Historical Effects.⁵⁴ *Storrs.*
3. Conflict of Christianity with Heathenism.⁵⁷ (Translated by Smyth.) *Uhlhorn.*
4. The Self Revelation of God.⁵⁷ *Harris.*
5. The Theistic Conception of the World.⁵¹ *Cocker.*
6. The Theistic Argument as Affected by Recent Theories.³⁷ *Diman.*

II,

1. The Philosophic Basis of Theism.⁵⁷ *Harris.*
2. An Introduction to the Philosophy of Religion.⁴⁴ *Caird.*
3. The Philosophy of Religion.⁵³ (Translated by Stewart.) *Pfleiderer.*
4. Philosophy of the Infinite.⁴⁴ *Calderwood.*
5. Christianity and the Greek Philosophy.³² *Cocker.*
6. Nature and the Supernatural.⁵⁷ *Bushnell.*

III.

1. A History of Christian Doctrine.⁵⁷ *Shedd.*
 2. The Doctrine of Sacred Scripture.⁵⁷ *Ladd.*
 3. Messianic Prophecy.⁵⁷ *Briggs.*
 4. Divinity of Our Lord Jesus Christ.²¹ *Liddon.*
 5. Modern Doubt and Christian Belief.⁵⁷ *Christlieb.*
 6. Science and Religion.⁴⁴ *Calderwood.*
- THESIS: (1) Ethical Bearings of Modern Socialism.
(2) Evolution as Related to Christian Morals.

FRENCH LANGUAGE AND LITERATURE.

I.

1. La Prononciation Française.⁴⁶ *M. A. Le Saint.*
2. The Philology of the French Language.³¹ *A. L. Meissner.*
3. Grammaire Historique de la Langue Française.³⁴ *A. Brachet.*
4. La Littérature Française.⁵⁰ *E. Gérusez.* 2 Vols.
5. Les Poètes Français.²⁸ *E. Crépet.* 1st and 2d Vols.
6. Several of Molière's Comedies.
7. A dissertation of not less than 2,000 words upon Molière, Bossuet, or Lamartine.

II.

1. Französische Grammatik mit besonderer Berücksichtigung des Lateinischen.⁷² *E. Mätzner.*
2. Syntax der Neufranzösischen Sprache.⁷² *E. Mätzner.*
3. Histoire de la Langue Française. *E. Littré.* 2 Vols.
4. La Littérature Française.²⁴ *D. Nisard.* 4 Vols.
5. Les Poètes Français.²⁸ *E. Crépet.* 3d and 4th Vols.
6. Three Tragedies by *Corneille* or *Racine.*
7. A dissertation of not less than 3,000 words upon *Corneille*, *Racine*, or *Molière.*

III.

1. L'Esprit des Lois. *Montesquieu.*
 2. Le Conscrit. *Erchmann-Chatrian.*
 3. Le Cid, Horace, La Suite du Menteur. *Corneille.*
 4. Andromaque, Athalie, Esther, Les Plaideurs. *Racine.*
 5. Les Femmes Favorites, Les Fourberies de Scapin, Les Précieuses Ridicules, L'Avare, Le Misanthrope, Le Malade Imaginaire. *Molière.*
 6. Les Misérables. *Victor Hugo.* (Any edition of the above.)
 7. A dissertation of not less than 3,000 words upon *Victor Hugo*, *Lamartine*, or *Balzac.*
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GERMAN LANGUAGE AND LITERATURE.

I.

1. Neuhochdeutsche Sprache.⁵⁹ *A. Engelein.*
2. Deutsche National Litteratur.⁹ *H. Kluge.*
3. Deutsche Gedichte.⁶⁷ *T. Echtermeyer.*
4. Geschichte der Poetischen Litteratur der Deutschen.³³ *W. C. Hahn.*
5. Deutsche Grammatik.⁷⁸ *K. J. Becker.*
6. Das Niebelungenlied.²⁶ *L. Freitag.*
7. Geschichte des Dreissigjährigen Krieges. *Scheiller.* Or its equivalent in classical German prose.
8. A dissertation of not less than 2,000 words upon Lessing or Freitag.

II.

1. Philosoph-Historische Grammatik der Deutschen Sprache.⁴⁵ *R. Westphal.*
2. Die Deutsche Sprache.¹⁵ *A. Schliecher.*
3. Neuhochdeutsche Worthbildung.⁶ *A. Feiteles.*
4. Geschichte der Deutschen-Litteratur.⁶⁸ *W. Sherer.*
5. The German Classics from the Fourth to the Nineteenth Century.⁵⁷ *F. Max Müller.* 2 Vols.
6. Die Deutsche National-Litteratur des Neunzehnten Jahrhunderts.⁶³ *R. von Gottschalk.*
7. Das Landhaus am Rhein.¹⁵ *B. Auerbach.*
8. A dissertation of not less than 2,000 words upon the Niebelungenlied, the Faust legend, or Romanticism.

III.

1. Geschichte der Deutschen-Litteratur. *Henrich Kurz.*
2. Egmont, Faust, Goetz von Berlichingen, Iphigenie auf Tauris. *Goethe.*
3. Jungfrau von Orleans, Maria Stuart, Wallenstein's Lager, Die Piccolomini, Wallenstein's Tod. *Schiller.*
4. A dissertation of not less than 3,000 words upon Lessing, Goethe, Schiller, or Uhland.

ESTHETICS AND THE HISTORY OF THE FINE ARTS.

I.

1. The Nature of the Fine Arts.⁴⁴ *H. Parker.*
2. Lectures on Art.⁵³ *W. Armitage.*
3. Introductory Studies in Greek Art.⁶⁵ *J. E. Harrison.*
4. Schools and Masters of Painting.² *A. G. Radcliffe.*
5. Architectural Styles.¹⁴ *A. Rosengarten.*
6. History of Ancient Sculpture.¹⁹ *L. M. Mitchell.* 2 Vols.
7. Hand-book of Archæology.⁷ *H. M. Westrop.*
8. Christian Archæology.⁵¹ *C. W. Bennett.*
9. Ancient Rome in the Light of Recent Discoveries.³⁷ *R. Lanciani.*
10. A dissertation of not less than 2,000 words upon Greek Art in general, Greek Sculpture, or Greek Architecture.

II.

1. History of Ancient Art.³² *F. von Reber.*
2. History of Mediæval Art.³² *F. von Reber.*
3. Roman Literature in Relation to Roman Art.⁴⁴ *Robert Burn.*
4. Longinus on the Sublime.⁴⁴ *H. L. Havell.*
5. Mythology and Monuments of Ancient Athens.⁴⁴ *Harrison and Verrall.*
6. History of Painting.¹⁹ *Woltmann and Woermann.* 2 Vols.
7. A dissertation of not less than 2,000 words upon Raphael, Albert Dürer, or the Mediæval Italian, Spanish, or Dutch Schools of Painting.

III.

1. History of Architecture.¹⁹ *J. Ferguson.*
2. Mural Painting.⁷³ *F. Crowninshield.*
3. The Dutch School of Painting.⁸⁰ *Henry Harvard.*
4. The English School of Painting.⁸⁰ *Ernest Chesneau.*
5. The Book of the Artists.⁵³ *H. T. Tuckerman.*
6. Raphael's Life and Works.⁴⁸ *Crowe and Cavalcaselle.* 2 Vols.
7. Life and Works of Albert Dürer.⁴⁸ *M. Thausig.* 2 Vols.
8. Biography of Giotto.⁵⁶ *Henry Quilter.*
9. Biography of Velasquez.⁵⁶ *G. Stowe.*
10. Biography of Meissonier.⁵⁶ *I. W. Mollett.*
11. A dissertation of not less than 2,000 words upon Cornelius, Paul, de la Roche, Millet, Landseer, or some other important modern artist.

LATIN LANGUAGE AND LITERATURE.

I.

1. Livy.⁴⁴ Book I. *J. R. Seeley.*
2. Remnants of Early Latin.²⁹ *Allen.*
3. Latin Selections.¹ *Smith.* Selections 1-11 and 27-63.
4. History of Roman Literature.⁵⁵ *Cruttwell.* Introduction and Book I.
5. Manual of Mythology.⁵³ *Murray.* Pp. 1-308. Or, Hand-book of Mythology.⁸¹ *Bereus.*
6. History of Rome.⁵⁵ *Mommsen.* Vol. I. Books I and II. And, Lectures on the History of Rome.¹ *Niebuhr.* Vol. I. Lec's i. to xi. inclusive.
Read : Credibility of Early Roman History.¹ *Lewes.*
Ten Great Religions.⁴⁹ *Clarke.* Chap. VIII.
Ancient Rome in the Light of Recent Discoveries.³⁷ *Lanciani.*

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1. Plautus, Miles Gloriosus.⁴⁴ *Tyrrell.* And Captivi.⁴⁴ *Lindsay.*
 2. Terence, Andria, and Adelphæ.²² *Crowell.*
 3. Latin Selections. *Smith.* Selections 12-26 and 64-71.
 4. History of Roman Literature. *Cruttwell.* Pp. 41-56.
 5. Roman Poets of the Republic.⁴⁴ *Sellar.* Chapters I.-IX.
 6. History of Rome. *Mommsen.* Vol. II. Book III. and Chap. XIII. of Book IV. in Vol. III. And Lectures on the History of Rome. *Niebuhr.* Vol. II. Lec. lxx.
Read : The Ancient Classical Drama.⁴⁴ *Moulton.*
The Sentence-Question in Plautus and Terence. *Morris.*
American Journal of Philology.⁴⁴ Vol. X. 4, and Vol. XI. 1 and 2.

-
1. Cicero, De Oratore.²² *Crowell.* And Second Philippic.⁴⁴ *Mayor.*
 2. Tacitus, Dialogus de Oratoribus.²² *Stuart.*
 3. Quintilian, Institutiones Oratoriæ.² *Frieze.* Books X. and XII.
 4. Horace, Ars Poetica.²² *Chase.*
 5. History of Roman Literature. *Cruttwell.* Book II.
 6. History of Rome. *Mommsen.* Vol. III. Book IV. and Chap. XII. of Book V. in Vol. IV.
Read : Life of Cicero.⁵⁷ *Forsyth.*
Old Roman World.⁵⁶ *Lord.*

II.

1. Horace, Odes and Epistles.²² *Chase*.
2. Ovid, Metamorphoses.¹ *Haupt*.
3. Selections from the Latin Poets.⁵⁰ *Crowell*.
4. Prosody, Versification ; Composition of an Ode or Poem in Latin.
5. Roman Poets of the Augustan Age.⁴⁴ *Sellar*. And Roman Poets of the Republic. *Sellar*. Chap. XV.
6. History of Roman Literature. *Cruttwell*. Pp. 241-318, and 359-371.
7. History of Rome. *Mommsen*. Vol. IV. Book V.
 Read: Rhythmic and Metric of the Classical Languages.²⁹
Schmidt. (Trans. by White.)
 Lectures on the History of Rome. *Niebuhr*. Vol. III.
 Lec's cvi. and cvii.
 Roman Literature in Relation to Roman Art.⁴⁴ *Burn*.

1. Horace, Epodes and Satires.²² *Chase*.
2. Juvenal.²² *Chase*.
3. Persius. *Conington*,⁴⁴ or *Gildersleeve*.³²
4. Martial, Select Epigrams.⁴⁴ *Stephenson*.
5. History of Roman Literature. *Cruttwell*. Book III.
6. History of the Romans Under the Empire.² *Merivale*. Vols. I and II.
 Read: Manual of Latin Prosody.⁶⁰ *Ramsay*.
 Essay on the Roman Satire.⁴⁴ *Nettleship*.

1. Tacitus, Annales.²⁰ *Allen*. Books I.-VI.
2. Cæsar, De Bello Civili.⁴⁴ *Moberly*.
3. Suetonius, De Vita Cæsarum.³⁶ *Peck*. Books I and II.
4. History of the Romans Under the Empire. *Merivale*. Vols. III. and IV.
5. History of Latin Literature.³² *Simcox*. Vol. I. Pp. 208-224 ; Vol. II. Pp. 179-232.
 Read: Cæsar: A Sketch.⁶⁷ *Froude*.
 History of the City of Rome.⁸² *Dyer*.
 Gerunds and Gerundives in the Annals] of Tacitus.
Platner. Am. Jour. Phil. Vol. IX. 4.

III.

1. Cicero, Selected Letters.⁴⁴ *Pritchard and Bernhard*; or *Montague*.²²
2. Seneca, Selected Letters; also Letters to Saint Paul.³² *Hurst and Whiting*.
3. Pliny, Letters.¹ *Holbrooke*.
4. Ovid, Letters of Heroines.⁴⁴ *Shuckburgh*.
5. History of the Romans Under the Empire. *Merivale*. Vols. IV-VI.
6. Gallus. *Becker*. Scene III Excursuses i. ii. iii. iv.
 Read: The Life of the Romans.² *Guhl and Koner*.
 Seneca and Saint Paul.⁴⁴ *Aubertin*.
 Fauces of the Roman House. *Greenough*. Harvard
 Studies in Classical Philology.²⁰ Vol. I.
 Gerunds and Gerundives in Pliny's Letters. *Platner*.
 Am. Jour. Phil. Vol. IX. 2.

1. Lucretius, De Rerum Natura.¹ *Munro*.
2. Cicero, De Natura Deorum.²⁹ *Stickney*.
3. Seneca, Moral Essays.³² *Hurst and Whiting*.
4. Roman Poets of the Republic.⁴⁴ *Sellar*. Chapters X-XIV.
5. Sketch of Ancient Philosophy.⁴⁴ *Mayor*.
 Read: The Stoics, Epicureans, and Sceptics.⁴³ *Zeller*.
 History of Ancient and Medieval Philosophy.⁵⁶ *Ueberweg*.
 (Trans. by Morris.) Sec's 52-61.
 Oriental and Linguistic Studies.⁵⁷ 2d Series. The East
 and West. Religion and Mythology. *Whitney*.

1. Ovid, Fasti. *Hallam*⁴⁴ or *Paley*.¹
2. Propertius, Select Elegies.⁴⁴ *Postgate*.
3. Tertullian, Select Works.³² *March*.
4. Latin Hymns.³² *March*.
 Read: Holy Roman Empire.⁴⁴ *Bryce*.
 Sacred Latin Poetry.⁴⁴ *Trench*.
 Catacombs of Rome.⁵¹ *Withrow*.

Two Theses are required. The subject for the first: The Causes of Rome's National and Literary Decline. This must consist of not less than 4,000 words. Choice of the following for the second thesis: (a) The Mythical Element in Roman Literature; (b) Roman Art; (c) Indebtedness of the Roman Civilization and Literature to the Greek; (d) Rome's Contribution to Modern Civilization.

REFERENCE WORKS.

New Classical Dictionary.¹ Sixteenth Edition. *Smith*.
Dictionary of Roman and Greek Antiquities.¹ *Rich*.
Manual of Roman Antiquities.¹ Eleventh Edition. *Ramsay*.
Hand-book of Archæology.¹ Second Edition. *Westropp*.
Archæology of Rome. Second Edition. *Parker*.
Rome and the Campagna.¹ *Burn*.
History of Roman Literature. Fifth Edition. *Teuffel*.

PHYSICS.

Students pursuing the Post-Graduate course in Physics are expected to have a reading knowledge of German, and are required to pass a preliminary examination in the Differential and Integral Calculus.

I.

1. Elementare Mechanik als Einleitung in das Studium der Theoretischen Physik. *Dr. Woldemar Voigt*, Leipzig, 1889.
2. Theory of Heat. *Clerk Maxwell*.
3. Lessons in Elementary Practical Physics. *B. Stewart and W. W. Haldane Gee*. Vol. I General Physical Processes.
4. Die Kinetische Theorie der Gase. *Dr. O. E. Meyer*.

II.

1. Physikalische Krystallography. *P. Groth*, Leipzig, 1885.
Erste Abtheilung, pp.3-186.
2. Physical Treatise on Electricity and Magnetism. *J. E. H. Gordon*, London, 1880. Vols. I. and II.
3. Lessons in Elementary Practical Physics. *Stewart and Gee*. Vol. III. optics and sound.
4. Units and Physical Constants. *Professor Everett*.

III.

1. Electricity and Magnetism. *Mascart and Joubert*. (English translation.) London, 1883. Vol. I. General Theory.
2. Lessons in Elementary Practical Physics. *Stewart and Gee*. Vol. II. Electricity and Magnetism.

The examinations are part experimental, part theoretical. The requisite knowledge and skill required to pass the examination in experimental Physics may be acquired in the physical laboratory of this or any other University affording the necessary apparatus and facilities for experimental work.

A thesis embodying the results of some original investigation must be presented to the examiner before the final examination is taken. The data for such thesis must be obtained by work in the laboratory of this University.

CHEMISTRY,

I.

1. Inorganic Chemistry. Advanced Course.⁴⁴ *Remsen.*

2. Laboratory work :

Preparation and demonstration of the properties of the following elements and compounds : Oxygen, Hydrogen, Ozone, Hydrogen Dioxide, Chlorine, Hydrochloric Acid, Chloric Acid, Perchloric Acid, Hydrobromic Acid, Hydriodic Acid, Iodic Acid, Hydrofluoric Acid, Amorphous Sulphur, Hydrogen Sulphide, Sulphuric Acid, Sulphur Trioxide, Sulphur Dioxide, Nitrogen, Ammonia, Nitric Acid, Nitrous Acid, Nitrous Oxide, Nitric Oxide, Nitrogen Tetroxide, Nitrogen Peroxide, Phosphine, Arsine, Phosphorus Trichloride, Phosphorus Pentachloride, Phosphoric Acid, Marsh Gas, Ethylene, Carbon Dioxide, Carbon Monoxide, Silicon, Silicon Tetrafluoride.

3. Qualitative Analysis :

a. Wet method.

b. Dry method. Blowpipe Analysis.⁴⁴ *Landauer.*

II.

1. Compounds of Carbon.⁴⁴ *Remsen.*

2. Laboratory work : Practical Organic Chemistry.⁴⁴ *Julius B. Cohen.*

3. Quantitative Analysis. (Gravimetric.) *Thorpe.*

III.

1. Die modernen Theorien der Chemie. *Dr. Lothar Meyer.*

2. Volumetric Analysis.⁴⁴ *Fleischer.* Translation by *Muir.*

3. Organic Analysis. (Quantitative Analysis.) *Fresenius.*

The examinations are part experimental, part theoretical. The requisite experimental knowledge to pass the examinations may be acquired in the chemical laboratory of this or any other University affording the necessary apparatus and facilities for exact work.

A thesis embodying the results of some original investigation must be presented to the examiner before the final examination is taken.

The data for such thesis must be obtained by work in the laboratory of this University.

HISTORY.

The following courses in History may be taken :

1. The three groups of General History.
2. Any two of the groups of General History with group II. of American History.
3. The two groups of Constitutional History with any one of the groups of General History.
4. The two groups of Constitutional History with group I. of American History.

GENERAL HISTORY.

I.

1. Ancient Empires of the East. *Sayce*.
2. Egypt.⁴⁸ *Brugsch*.
3. Ancient Art. *Perrot and Chipiez*.
4. Ancient Law. *Maine*.
5. Buddha. *Oldenberg*.
6. Microcosmos. *Lotze*. Book VII.
7. Ancient City. *Coulanges*.
8. History of Greece. *Grote*.
9. History of Greece. *Duncker*.
10. Public Economy. *Boeckh*.
11. Politics.⁴⁴ *Aristotle*.
12. Greek Philosophy. *Zeller*.
13. Greek Literature.³² *Mahaffy*.

II.

1. History of Rome. *Ihne*.
2. History of Rome. *Mommsen*.
3. Romans Under the Empire. *Merivale*.
4. Decline and Fall. *Gibbon*.
5. History of the Christian Church. *Hase*.
6. Latin Christianity. *Milman*.
7. History of Greece.⁴⁴ *Finlay*.
8. Fall of Rome.² *Sheppard*.
9. Holy Roman Empire. *Bryce*.
10. Gregory VII. *Villemain*.
11. History of the Saracens.⁴⁴ *Freeman*.
12. Ottoman Turks. *Creasy*.
13. Middle Ages. *Hallam*.
14. History of Philosophy. (Mediaeval.) *Ueberweg*.

III.

1. Italian Renaissance.⁴⁴ *Burckhardt.*
2. Lorenzo de Medicis. *Reumont.*
3. Charles V. *Robertson.*
4. Period of the Reformation.² *Haüsser.*
5. History of the Popes. *Von Ranke.*
6. Dutch Republic. *Motley.*
7. History of France. *Deumy.*
8. History of England. *Green.*
9. History of Prussia.⁹ *Tuttle.*
10. History of Russia. *Rambaud.*
11. History of the United States. *Bancroft.*
12. History of the United States. *Schouler.*
13. Modern Europe. *Fyffe.*
14. German Empire. *Von Sybel.*
15. History of the Origins of Contemporary France,³⁶ *Taine.* 5 Vols.

CONSTITUTIONAL HISTORY.

I.

1. Political Science. *Woolsey.*
2. Politics.⁴⁴ *Aristotle.*
3. Physics and Politics. *Bagehot.*
4. Roman Law.² *Hadley.*
5. Ancient Law. *Maine.*
6. Middle Ages. *Hallam.*
7. History of Latin Christianity. *Milman.*
8. Holy Roman Empire.⁴⁴ *Bryce.*
9. Civil Liberty. *Lieber.*
10. The Swiss Confederation.⁴⁴ *Adams and Cuninghame.*
11.

11.	{	Ancient Régime. ³⁶	<i>Taine.</i>
		Modern Régime.	
12. Founding of the German Empire. *Von Sybel.*

II.

1. Constitutional History of England. *Stubbs.*
2. Constitutional History of England. *Hallam.*
3. Constitutional History of England. *May.*

4. English Constitution.² *Bagehot.*
5. Representative Government. *Mill.*
6. English Colonies in America.³⁶ *Doyle.*
7. Debates.⁴¹ *Elliott.*
8. Democracy in America. *De Tocqueville.*
9. American Commonwealth. *Bryce.*
10. Constitutional History of the United States. *Von Holst.*

AMERICAN HISTORY.

I.

For those who prefer it the Narrative and Critical History of America, edited by Justin Winsor, will be taken as the basis of examination. Collateral reading must in that case be pursued under the direction of the Professor of History.

II.

Or the following course may be adopted :

1. History of the United States. *Bancroft.*
2. Spanish Conquest of America. *Help.*
3. Historical Narratives.⁴² *Parkman.*
4. English Colonies in America.³⁶ *Doyle.*
5. Rise of the Republic. *Frothingham.*
6. American Revolution. *Fiske.*
7. Critical Period of American History. *Fiske.*
8. History of the United States. *Hildreth.*
9. History of the United States. *Schouler.*
10. Debates.⁴¹ *Elliott.*
11. Constitutional History of the United States. *Von Holst.*
12. Congressional Government. *Woodrow Wilson.*
13. American Commonwealth. *Bryce.*
14. Abraham Lincoln. *Hay and Nicolay.*
15. War Between the States. *A. H. Stephens.*

BOTANY.*

I.

1. Study of assigned types of plant life. General reference works necessary :
 - (a) Practical Botany.⁴⁴ *Bower*.
 - (b) Hand-book of Plant Dissection.³⁰ *Arthur, Barnes, and Coulter*.
 - (c) Physiological Botany.³⁸ *Goodale*.
2. THESIS embodying results of the study of the minute anatomy of some assigned vascular plant, accompanied by illustrative slides and drawings. General † works of reference necessary :
 - (d) Vergleichende Anatomie der Vegetations—organe der Phanerogamen und Farne.²⁷ (Or English translation.⁴⁴) *De Bary*.
 - (e) Das Botanische Practicum.²⁷ *Strasburger*.
 - (f) Botanical Micro-Chemistry.¹³ *Poulsen and Trelease*.

II.

1. Preliminary studies in the physiology of plants.
 - (a) Physiological Botany.³⁸ *Goodale*. Pp. 195-478, with exercises in Appendix. Pp. 18-35.
2. THESIS showing results of original investigation on an assigned problem in plant physiology. General works of reference necessary :
 - (b) Lectures on the Physiology of Plants.⁴⁴ *Vines*.
 - (c) Vorlesungen über Pflanzen-Physiologie.²⁶ (Or English translation.⁴⁴) *Sachs*.

III.

1. General outlines of Cryptogamic Botany, involving :
 - (1) Study of assigned types, and (2) Collection of material representing the leading groups of cryptogamic plants from protophytes to ferns. Reference works necessary :
 - (a) Outlines of Classification and Special Morphology.⁴⁴ *Goebel*.
 - (b) Cryptogamic Botany.⁴³ *Bennett and Murray*.
2. Final THESIS based on studies in the development and morphology of some assigned plants, or the systematic study of some group of cryptogamic plants.

* Candidates commencing this course are supposed to be familiar with the general morphology of the higher plants as outlined in *Gray's Structural Botany*, and with ordinary flowering plants and the method of their identification.

† Other literature bearing on the particular subject chosen will be named after the selection is made.

ZOOLOGY.

I.

1. Outlines of General Zoology with practical studies in the gross anatomy and morphology of typical forms. Reference works necessary:
 - (a) Text Book of Zoology.⁴⁴ *Claus and Sedgwick.*
 - (b) Elements of Comparative Anatomy.⁴⁴ *Gegenbaur.*
 - (c) Hand-book of Invertebrate Anatomy.¹³ *Brooks.*
 - (d) The Cat.⁵⁷ *Mivart.*
 - (e) Osteology of the Mammalia.⁴⁴ *Flower.*
 - (f) Various Guides to Dissection.
2. Preparation of small collection illustrating either the anatomy of some type studied, or the comparative osteology of an assigned series.

II.

1. Practical Normal Histology. Studies in microscopic technique.
2. Comparative Embryology. Collection and study of embryos. Work of reference necessary:
 - (a) Comparative Embryology.⁴⁴ *Balfour.*
3. THESIS on the life history of some assigned type.

III.

1. Special investigation in some developmental, anatomical, or systematic subject.
2. Final THESIS showing results of such investigation.

GEOLOGY.

I.

1. *Dynamic Geology.*

- (a) Principles of Geology.² *Lyell.* Vol. I. pp. 103-655; Vol. II. entire.
- (b) Elements of Geology.² *Le Conte.* Pp. 1-163
- (c) Manual of Geology.³⁸ *Dana.* Pp. 605-844.
- (d) Chemical and Geological Essays.¹³ *Hunt.*

2. *Elements of Lithology*, with collection and determination of fifty species of minerals and fifty typical rocks, using for reference :

- (a) Blowpipe Analysis. *Nason*⁵² or *Brush*.⁷⁰
- (b) Manual of Mineralogy,⁴⁴ *Dana.*
- (c) Manual of Geology.³⁸ *Dana.*
- (d) Text Book of Geology.⁴⁴ *Geikie.* Pp. 30-194; 472-602.

3. *Outlines of Historical Geology* with collection and determination of fifty species of fossils.

- (a) Elements of Geology.² *Le Conte.* Pp. 277-613.
- (b) Manual of Geology.³⁸ *Dana.* Pp. 136-604.

II.

1. *Economic Geology.*

- (a) Applied Geology, *Williams.*
- (b) THESIS representing the results of some practical investigations concerning the nature, quality, and extent of some economic product.

2. Detailed study of some epoch or period of geologic history, or a systematic study of some limited group of organic remains with special reference to some formation accessible for field study.*

3. Geologic Succession of Species and its Relation to the Doctrine of Derivation.

- (a) Manual of Geology.³⁸ *Dana.* Pp. 160, 161, 208-210, 252, 253, 288, 289, 381-8, 482-6, 588-604.
- (b) Elements of Geology.² *Le Conte.* Pp. 291-293, 298, 299, 339-345, 358-375, 440-451, 517-534.
- (c) The Origin of the Fittest.² *Cope.*
- (d) The Origin of the Species.² *Darwin.*

* Special works of reference will be recommended on announcement of subject.

4. *Mineral Deposits.*

- (a) Mineral Resources of the United States.¹⁸ *Williams.*
- (b) THESIS representing the actual survey of some mining locality, with special attention to methods employed; to be accompanied with drawings, diagrams, maps, and collections.

III.

- 1. Special study of the Geology of some State or Province, including a collection of representative rocks and organic remains.*
- 2. Final THESIS based on the actual survey of some county, river course, or line of railroad, including (1) The series of field notes made in the survey. (2) A report of the lithology, geology, and palæontology of the survey, drawn up in business-like order. (3) Maps and diagrams showing the formations, topography, and drainage of the region studied. (4) A numbered series of rocks and fossils collected with notes thereon.

* Special works of reference will be recommended on announcement of subject.

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